

LECTOTYPE DESIGNATIONS FOR THE SPECIES OF COPROMYZINAE (DIPTERA: SPHAEROCERIDAE) DESCRIBED BY HALIDAY¹

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ABSTRACT: Lectotypes are designated for *Borborus hamatus* Haliday, (= *Crumomyia nitida* (Meigen)), *B. suillorum* Haliday (= *C. fimetaria* (Meigen)), and *B. longipennis* Haliday, a nominal species of uncertain status. The additional Sphaeroceridae in the Haliday and Curtis Collections are also discussed.

The Irish entomologist Alexander Haliday described 25 nominal species of Sphaeroceridae (Diptera) in two papers (Haliday 1833, 1836). These include four species described in the genus *Borborus* Meigen that are now placed in three different genera within the tribe Copromyzini. As part of a revision of this group, I examined putative Haliday type material from the Haliday and Curtis Collections. In this paper, I designate lectotypes where appropriate and review the status of the four Haliday names. I also briefly discuss the additional Sphaeroceridae in the Haliday and Curtis Collections.

Haliday's descriptions of sphaerocerids were based mainly on material in his own collection, now in the National Museum of Ireland, Dublin. He also examined Francis Walker's sphaerocerid collection, most of which he apparently retained (Haliday 1836: 317). Collin (1914) suggested that some sphaerocerid specimens examined by Haliday might still be in the Walker Collection, and it is clear that Haliday did send other Diptera specimens to Walker (O'Connor and Nash 1982), but according to Brian Pitkin (pers. comm.), there are no Copromyzinae with Haliday labels or otherwise recognizable as Haliday types in the British Museum (Natural History) where the Walker Collection is housed. Haliday also exchanged material with other workers, including John Curtis (O'Connor and Nash 1982), whose collection is now in the Museum of Victoria. I examined only the Copromyzinae in this collection, but there are putative syntypes of many other Haliday sphaerocerid species present. These include specimens on typical Haliday card mounts (see O'Connor and Nash 1982 for a description of such specimens), some of which also have labels in his writing. Among these are specimens labelled with the following Haliday names: *scabricula*, *crassimana*, *humida*, *leucoptera*, *fuscipennis*, *lugubris*, *scutellaris*, *fungicola*, *vagans*, and *zosteriae* (A. Neboiss, pers. comm.).

¹Received September 29, 1986. Accepted November 10, 1986.

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Workers revising Haliday species should be aware of these specimens and that putative syntypes of other species may be present in the Curtis Collection.

All of the specimens I examined from Haliday's collection bear machine-printed labels with "Haliday 20.2. '82," which were added when the specimens were incorporated into the National Museum of Ireland general collection. All of them also have light green, machine-printed "Ireland" or white, machine-printed "British" labels. According to O'Connor and Nash (1982), Haliday rarely used locality labels, but his specimens' pin heads were often color coded by country of origin. The above labels were added by museum workers based on type data published by Haliday or to replace the pin heads clipped off to allow the pins to fit into the Museum's drawers.

Not all specimens now found under Haliday names in his collection should be uncritically accepted as syntypes. Haliday continued to add specimens to his collection after publishing descriptions, sometimes even replacing damaged type material (O'Connor and Nash 1982). Haliday's Diptera collection also underwent considerable rearrangement and mixing when it was incorporated into, and later removed from, the main National Museum collection (O'Connor and Nash 1982). Collin (1914) previously examined Haliday's sphaerocerids, but it is unclear whether he described individual series as he found them or if he sorted the specimens into series based on Haliday's descriptions. There are now more specimens in the collection than Collin (1914) reported, indicating that later museum workers re-sorted some specimens and incorporated overlooked material. For these reasons, only specimens with labels in Haliday's writing or those closely fitting his original descriptions should be regarded as syntypes. In the following section I discuss the status and type material of the four Haliday names currently placed in the Copromyzinae.

***Borborus hamatus* Haliday, 1833: 17.**

From Haliday's original description, especially of the male hind femora as "at the base armed with a strong hooked tooth," *hamatus* is clearly a junior synonym of *Borborus nitidus* Meigen (1830), currently placed in the genus *Crumomyia* Macquart (Norrbon and Kim 1985). Haliday (1836) himself later recognized this synonymy. The type specimens were collected in the area of Holywood, County Down, Ireland.

There are no specimens labelled as *hamatus* in Haliday's collection, but Haliday frequently did not label his specimens, and his species that have been synonymized were often placed under senior synonyms when his collection was incorporated into the Museum's general collection (O'Connor and Nash 1982). Four males of *Crumomyia nitida* in the collection may

thus be *hamatus* syntypes. They are double mounted on small pins rather than on the more common card mounts, and they have "Ireland" labels. One also has a "nitidus" label in Collin's writing. A similarly mounted female of *C. nitida*, also with an Ireland label and now placed under *suillorum* Haliday, might also be a *hamatus* syntype.

The Curtis Collection also contains three males and one female of *C. nitida* that are probably *hamatus* types. These specimens, placed above the "hamatus Hal." label in the collection are double mounted similar to the putative syntypes in the Haliday Collection, and one of the males also has a "hamatus" label in Curtis' writing. A similarly mounted female of *Copromyza similis* (Collin) is also in this series, but because of its identity it is a doubtful syntype. The Curtis label and the mounting of these specimens similar to the specimens in the Haliday Collection alone do not justify strongly enough that these specimens came from Haliday and that they should be considered syntypes; there are double pin mounted specimens in the Curtis Collection with locality labels in Curtis' writing that did not come from Haliday. Curtis (1833) remarked that he was "indebted to Mr. Haliday for the species figured" (meaning *hamatus*), however, and because of this statement I have designated the specimen labelled as *hamatus* as lectotype rather than a specimen from the Haliday Collection. The latter specimens are probably also syntypes, but the evidence for this is more circumstantial.

***Borborus suillorum* Haliday, 1836: 322.**

From Haliday's description of the mid tibiae with dorsal bristles, wing crossveins infuscated, male hind femora without a basal spur, only the base of the tibiae rust brown, and size 1.5 lines (= 2.15 mm), *suillorum* has been considered a junior synonym of *Borborus fimetarius* Meigen (1830), currently *Crumomyia fimetaria* (Meigen) (Norrbon and Kim 1985). This is the only copromyzine species occurring in the British Isles having all of the above characters. Haliday (1836) said that *suillorum* "Inhabits fungi in England and Ireland," although he may have included the first country in the range based only on specimens of "Var. B" (probably = *Crumomyia roserii* (Rondani) (Collin 1914), which was "Taken by Mr. F. Walker near London."

Under *suillorum*, the Haliday Collection contains three males of *C. fimetaria* and one female of *C. nitida* double mounted on small pins and with "Ireland" and "Named by J.E. Collin" labels. One male also has a thin label with "suillorum" in Collin's writing. The female of *nitida*, as mentioned above, may be a syntype of *hamatus* Haliday, but the *fimetaria* males are putative *suillorum* syntypes. I have designated the specimen with the hand-written Collin label as lectotype.

Borborus flavipennis Haliday, 1836: 324.

Haliday described *flavipennis* from female specimen(s) "found by Mr. Walker near London". *Alloborborus pallifrons* (Fallen) is the only copromyzine species occurring in England that fits his description of the fore coxae rust yellow, frontal triangle glossy, wing crossveins not infuscated, r-m at first third of cell dm, mid tibiae not setose dorsally, and hind tibiae with an apical spur. The single female of *A. pallifrons* in the Haliday Collection was previously designated as lectotype of *flavipennis* by Norrbom and Kim (1985). It is on a typical Haliday card mount and has a label with "pallifrons, flavipennis Hal" in Collin's writing and "British" and "Named by J.E. Collin" labels.

Borborus longipennis Haliday, 1836: 324.

B. longipennis has been regarded as a junior synonym of *Borborus vitripennis* Meigen (1830) since Duda's (1923) revision of the Palaearctic Copromyzinae. The identity of the true *vitripennis* type in Paris is in doubt however (Richards 1930), and *longipennis* is probably the valid name for the species which is currently known as *Copromyza (Borborillus) vitripennis* (Meigen) (Papp 1985) (i.e., *vitripennis auct.*). To further complicate matters, this species is not a *Borborillus*; it is probably related to the *saliens* species group of *Metaborborus* Vanschuytbroeck. I will further discuss this relationship in a future paper.

Haliday (1836), from his mention of "the small cross-nerve [=crossvein r-m] usually at the first fifth of the discoidal cell [cell dm]," of the abdomen with "the extremity [terminalia] in the male ... hairy," and that "the spur springs before the extremity of the hind shank [tibia] and is very slender and long," certainly must have based his description on specimens of *vitripennis auct.* He qualified the reference to the location of r-m with "usually," however; thus he may have also included other *Borborillus* species in his concept of *longipennis*, particularly a larger one like *uncinatus* (Duda) which is also found in his collection. Of the collection localities of his specimens, Haliday (1836) stated, "on the sea coast of Ireland; in various parts of England; not rare."

The Haliday Collection contains eight specimens under *longipennis*, all on typical Haliday card mounts and labelled as follows: one male and one female of *vitripennis auct.* with "Ireland" and "Named by J.E. Collin" labels, the male also with a label with "longipenn" in Collin's writing; two males and two females of *vitripennis auct.* with "British" labels, one of the males also with a white label with "longipennis" in Haliday's writing; one female of *unicatus* (Duda) with "Ireland" and "Named by J.E. Collin" labels; and one female of *uncinatus* with a "British" label. The specimens

with "British" labels also have small hand-written numbers on the card mount next to the pin. I have designated the male with the *longipennis* label in Haliday's writing as lectotype to maintain the traditional usage of this name. Further resolution of the status of *longipennis* will require reexamination of the type of *Borborus vitripennis* Meigen and determination of the correct usage of that name. The specimens of *uncinatus* (Duda) in the Haliday Collection are probable paralectotypes of *longipennis*, but the specimens of other *Borborillus* species in the collection do not fit Haliday's description and are not syntypes.

ACKNOWLEDGMENTS

I sincerely thank J.P. O'Connor (National Museum of Ireland) and A. Neboiss (Museum of Victoria) for the loans of specimens and for the information they generously provided about the Haliday and Curtis Collections. I am also grateful to B.R. Pitkin (British Museum) for searching the Walker Collection for Haliday specimens. J.P. O'Connor, A. Neboiss, S.A. Marshall (Univ. of Guelph), D. Nickle, F.C. Thompson, and R.V. Peterson (Systematic Entomology Laboratory) reviewed drafts of the manuscript; I thank them for their helpful comments and suggestions.

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